

CLAIMS:

1. An image processing method comprising the steps of:

executing pattern matching between a rotated image and a reference image, said rotated image being obtained by rotating said reference image that is inputted beforehand,

specifying, based upon a result of said pattern matching, a rotation-resistant reference point at which an error of position of a comparative object becomes a minimum value, said error being detected by pattern matching between an image of said comparative object, which is obtained by imaging said comparative object disposed in an attitude that includes a positional deviation in a direction of rotation, and said reference image, and

performing a positional alignment of said image of said comparative object and said reference image using said rotation-resistant reference point as a reference, thus calculating a position of said comparative object.

2. An image processing method comprising the steps of:

calculating an amount of positional deviation between a rotated image and a reference image based upon pattern matching between said rotated image and said reference image, said rotated image being obtained by rotating said reference image that is inputted beforehand,

specifying, based upon an angle of said rotation and said amount of positional deviation, a rotation-resistant reference point at which an error of position of a comparative object becomes a minimum value, said error being detected by pattern matching between an image of said comparative object, which is obtained by imaging said comparative object disposed in an attitude that includes a positional deviation in a direction of rotation, and said reference image, and

performing a positional alignment of said image of said comparative object and said reference image using said rotation-resistant reference point as a reference, thus calculating a position of said comparative object.

3. An image processing method comprising the steps of:

performing calculations of amount of coincidence between a rotated image and a reference image for each of a plurality of different centers of rotation within said reference image, said rotated image being obtained by rotating said reference image that is inputted beforehand,

specifying a center of rotation or a point in a region near said center of rotation as a rotation-resistant reference point, said center of rotation being within a specified range from a maximum value of said amount of coincidence among said plurality of different centers of rotation, and said rotation-resistant reference point being at which an error of position of a comparative object becomes a minimum value, said error being detected by pattern matching between an image of said comparative object, which is obtained by imaging said comparative object disposed in an attitude that includes a positional deviation in a direction of rotation, and said reference image, and

performing a positional alignment of said image of said comparative object and said reference image using said rotation-resistant reference point as a reference, thus calculating a position of said comparative object.

4. The image processing method according to Claim 1, 2 or 3, wherein:

at least two of said rotation-resistant reference points are specified for a single comparative object, and

said at least two of rotation-resistant reference points are included in a single image frame upon performing said positional alignment.

5. The image processing method according to Claim 1, 2 or 3, said method further comprising the step of calculating working processing points in said comparative object using said rotation-resistant reference points as a reference.

6. The image processing method according to Claim 4, said method further comprising the step of calculating working processing points in said comparative object using said rotation-resistant reference points as a reference.

7. The image processing method according to Claim 5, wherein:

two of said rotation-resistant reference points are specified for a single comparative object, and

working processing points that are present outside a circle, which contacts said two rotation-resistant reference points and whose diameter is a straight line that connects said two rotation-resistant reference points, are calculated.

8. The image processing method according to Claim 6, wherein:

two of said rotation-resistant reference points are specified for a single comparative object, and

working processing points that are present outside a circle, which contacts said two rotation-resistant reference points and whose diameter is a straight line that connects said two rotation-resistant reference points, are calculated.

9. An image processing device comprising:

a trial processing means that executes pattern matching between a rotated image and a reference image, said rotated image being obtained by rotating said reference image that is inputted beforehand,

a reference point calculating means that specifies, based upon a result of said pattern matching, a rotation-resistant reference point at which an error of position of a comparative object becomes a minimum value, said error being detected by pattern matching between an image of said comparative object, which is obtained by imaging said comparative object disposed in an attitude that includes a positional deviation in a direction of rotation, and said reference image, and

a position detection means that performs a positional alignment of said image of said comparative object and said reference image using said rotation-resistant reference point as a reference, thus calculating a position of said comparative object.